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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,701	11/09/2001	Hans-Ueli Roeck	34152	7952

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EXAMINER	
LEE, PING	
ART UNIT	PAPER NUMBER
2615	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/044,701	ROECK ET AL.	
	Examiner	Art Unit	
	Ping Lee	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Killion et al (hereafter Killion) (US006101258A).

Regarding claim 24, Killion clearly discloses in Fig. 1 a method for operating a hearing device in which one of several possible heating programs is selected at a given time in response to a bi-level switching state value (by operating switch 55) comprising the steps of:

providing a microphone (20 or 15);

providing transfer functions (defined by 40 or unity gain) between the microphone and a hearer, the transfer functions having parameters and corresponding with the programs;

initiating a change in at least one of the parameters in response to said bi-level switching state value (by operating switch to make connection between either path 50 or 62) from a momentary value to a desired value in a time-based manner (every switch in a hearing aid is being operated in a time-based manner).

Regarding claim 20, Killion discloses hearing device, whereas at least on smooth transition (gradual change in Killion reads on claimed smooth transition) filter unit

(260,255,275) is provided which filter unit (260,255,275) generates time-based transitions (see Figs. 10-12, the voltage or resistance is gradually changed over a period of time; furthermore, the change occurred in a hearing aid is a time-based transition) of parameters which are affected by hearing program switching (omnidirectional or directional programs) in response to a bi-level (the hearing aid is operated either in omnidirectional mode or directional mode; this reads on the claimed bi-level switching state) switching state value (from 270), in that values of the parameters (signal received by the microphones) to be changed by a hearing program switching are passed through the filter unit (260,255,275) in order to obtain a smooth transition from a momentary (for example the signals from microphones 240 and 235 are not attenuated) to a desired parameter value.

Regarding claims 21 and 22, the claimed low-pass characteristic and the ramp generator read on the logarithmic rectifier.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-12, 1/19, 2/19, 3/19, 4/19, 5/19, 6/19, 7/19, 8/19, 9/19, 10/19, 11/19, 12/19 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen (US00670442281) in view of Killion.

Regarding claim 1,2, 7-12, 1/19, 2/19, 7/19, 8/19, 9/19, 10/19, 1 1/19, 12/19, 20 and 24, Jensen discloses a method for operating a hearing device (hearing aid) in which one of several possible hearing programs (omnidirectional or directional programs) is selected at a given time in order to adjust to a momentary acoustic surround situation (noise condition; col. 1, lines 28-29, 39-44), in that parameters (the coefficients for X_{front} and X_{back} respectively; col. 6, line 58) of a transfer function (the function between the input and output) provided between a microphone (Fmic or Bmic) and a hearer are changed, whereas the parameters (the coefficients for X_{front} and X_{back} respectively; col. 6, line 58) to be changed according to the hearing program switching are adjusted from a momentary value (for example, omni is 0) to a desired value (omni is 1) in a smooth manner (abstract, col. 2, line 22, col. 5, line 10) in order to provide a smooth transition from one hearing program to another by initiating a time-based transition (smooth transition is inherently time-based to provide gradual change over a time period; any change occurred in a hearing aid is time-based).

Jensen suggests having a smooth transition, but fails to explicitly disclose how the smooth transition is in response to a bi-level switching state value. The claimed bi-level switching state value reads on the switch in Jensen to have either the omnidirectional characteristic or directional characteristic. In the same field of endeavor, Killion teaches how to smoothly change from directional response to

omnidirectional response or vice versa (bi-level switching state) by measuring the ambient noise level (Fig. 13, 270) and controlling the gains of the amplifiers accordingly. Thus, it would have been obvious to one of ordinary skill in the art to modify Jensen by initiating the transition in response to switching state value as suggested in Killion in order to provide proper microphone reception according to the noise condition.

Regarding claims 3, 4, 3/19, 4/19 and 21, the claimed step response of a low-pass filter reads on the response of the logarithmic rectifier as taught in Killion.

Regarding claims 5, 6, 5/19, 6/19 and 22, the claimed ramp generator reads on the response of the logarithmic rectifier as taught in Killion.

6. Claims 13-18, 13/19, 14/19, 15/19, 16/19, 17/19 and 18/19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen in view of Killion as applied to claims 1-12, 1/19, 2/19, 3/19, 4/19, 5/19, 6/19, 7/19, 8/19, 9/19, 10/19, 11/19, 12/19 above, and further in view of Ruegg (US 3,875,349).

Regarding claims 13-18, 13/19, 14/19, 15/19, 16/19, 17/19, and 18/19, Jensen fails to teach manual intervention. Jensen however teaches a switch-over or a smooth change-over (col. 5, line 10). The "switch-over" in Jensen implies non-smooth changing. Killion suggests the manual intervention in another embodiment as shown in Fig. 1. Ruegg teaches a hearing aid not only need automatic control of the hearing program, it also needs manual control that would enable the user to have control over his/her hearing aid when he/she has a desire to change the program (col. 3, lines 36-41). Thus, it would have been obvious to one of ordinary skill in the art to further modify Jensen and Killion's system in view of Ruegg by having a manual intervention over an

oversteer unit in order to enable the hearing aid's wearer to have a manual control over the hearing program when he/she wants have a change.

Response to Arguments

7. Applicant's arguments filed 11/6/06 have been fully considered but they are not persuasive.

Applicant argued that the switching in Killion is performed in a continuous function, it is not a bi-level switching state value. Examiner believed that Killion still reads on the newly amended claims. Bi-level switching state value means to have value representing two switch states. The hearing aid in Killion is operated in either as the omnidirectional or directional one. Those are the two states. Killion discloses how to switch to either one of these states based on a (control) value. So this value is the bi-level switching state value.

Applicant argued that the logarithmic amplifier is not a ramp function or a low pass response. The purpose of logarithmic rectifier is to average the input signal. The rectifier has a low pass response or a ramp function because it smoothes out the highs and lows to provide an average.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522. The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ping Lee
Primary Examiner
Art Unit 2615

pwl